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Hamid Mahmood

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EXAMINER

ABELSON, RONALD B

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/682,088	Applicant(s) MAHMOOD ET AL.	
	Examiner RONALD ABELSON	Art Unit 2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/11/07 and 10/10/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 11, 12-18, 21-29 rejected under 35 U.S.C. 103(a) as being unpatentable over Alriksson (US 6,977,938) in view of Dolganow (US 2006/0123110) and McAllister (US 2001/0010681).

Regarding claims 1, 14, 24, 27, and 28 Alriksson teaches a method of routing packets from a wireless communications terminal (mobile networks, source routing, col. 3 lines 3-6). Note, in source routing, the route is chosen at the terminal.

Although Alriksson teaches wireless links (mobile networks), the reference is silent on receiving, via a respective wireless link from at least one of a plurality of wireless access nodes forming a network, network information relating to links between nodes.

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Dolganow teaches receiving, via a respective link from at least one of a plurality of access nodes forming a network, network information relating to links between nodes (advertising available resource information, source routing protocol uses available resource advertisements for identifying a path, abstract, resource information, available bandwidth, [0033]).

Alriksson is silent on selecting a route via the network for packets from the terminal in dependence upon the network information and supplying packets with information relating to the selected route.

Dolganow teaches selecting a route via the network for packets from the terminal in dependence upon the network information and supplying packets with information relating to the selected route (source routing protocol uses the available resource advertisement for identifying a path, abstract).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of Alriksson by receiving, via a respective wireless link from at least one of a plurality of wireless access nodes forming a network, network information relating to links between nodes, selecting a route

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via the network for packets from the terminal in dependence upon the network information, and supplying packets with information relating to the selected route, as suggested by Dolganow. This modification can be performed by transmitting available resource advertisement messages as show by Dolganow. This modification would benefit the system by ensuring the terminals choose a route based upon the current available bandwidth between the links.

The combination is silent on selecting a route in dependence upon information dependent upon wireless communications between the terminal and at least one of the nodes.

McAllister teaches selecting a route in dependence upon information dependent upon communications between the terminal and at least one of the nodes (link cost, [0007]).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by selecting a route in dependence upon information dependent upon communications between the terminal and at least one of the nodes, as shown by McAllister. This modification would benefit

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the system by ensuring that the chose route is affordable to the end user.

Regarding claim 2, the terminal, monitoring a status of the selected route (Dolganow: source routing protocol uses the available resource advertisement for identifying a path, abstract).

Regarding claim 3, in the terminal, receiving and monitoring network information to determine a status of the selected route and, selectively in dependence upon the determined status, selecting a new route via the network for packets from the terminal (Dolganow: source routing protocol uses the available resource advertisement for identifying a path, abstract).

Regarding claims 4 and 16, selecting a route including wireless communications between the terminal and a different one of the nodes (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

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Regarding claims 5, 6, the links between the nodes comprise wireless communications links (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claims 7, 17, 21, and 23, in addition to the limitations already addressed, the network information comprises Quality of Service parameters (McAllister: quality of service, [0007]).

Regarding claims 8 and 18, network information comprises an available bandwidth for each link between nodes in at least a part of the network (Dolganow: resource information, available bandwidth, [0033]).

Regarding claims 11, 12, 22, 25, and 29, a wireless communications terminal arranged for operation in accordance with the method of claim 4 (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claims 13 and 26, a plurality of wireless access nodes, a plurality of links between nodes for packet

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communications in the network, and at least one wireless communications terminal as claimed in claims 12, 25 for wireless communications with the wireless access nodes, the wireless access nodes being arranged for supplying to the terminal said network information relating to links between the nodes (Alriksson: mobile networks, source routing, col. 3 lines 3-6).

Regarding claim 15, in the terminal, monitoring network information to determine a status of the selected route and, selectively in dependence upon the detected status, selecting a new route via the network for packets from the terminal (Dolganow: advertising available resource information, source routing protocol uses available resource advertisements for identifying a path, abstract, resource information, available bandwidth, [0033]).

3. Claims 9 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Alriksson, Dolganow, and McAllister, as applied to claims 6 and 14 above, and further in view of Miernik (US 7,155,215).

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Although the combination teaches network information, the combination is silent on network information comprises a current delay for each link between nodes in at least a part of the network.

Miernik teaches the network information / QoS, comprises a current delay for each link between nodes in at least a part of the network (QoS, delays, connections).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating a link delay component in determining the QoS for each route, as suggested by Miernik. This modification can be performed in software. This modification would benefit the system since link delay is an integral determinant in the QoS for data being transmitted over a network.

4. Claims 10 and 20 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Alriksson, Dolganow, and McAllister as applied to claims 6 and 14 above, and further in view of Seguin (US 7,206,295).

Although the combination teaches network information, the combination is silent on network information comprises an error

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rate for each link between nodes in at least a part of the network.

Sequin teaches QoS as a function of the error rate (col. 4 lines 25-28).

Therefore it would have been obvious to one of ordinary skill in the art, to modify the system of the combination by incorporating an error rate component in determining the QoS for each route, as suggested by Sequin. This modification can be performed in software. This modification would benefit the system since the error rate is an integral determinant in the QoS for data being transmitted over a network.

Response to Arguments

5. Applicant's arguments filed 12/8/08 have been fully considered but they are not persuasive.

Regarding applicant's comment that Dolganow does not teach wireless communications (applicant: pg. 4 paragraph 1), the Examiner never stated Dolganow teaches wireless communications. With respect to the independent claims, all references teach source routing and therefore the Examiner maintains that the combination of the references is appropriate. In the same

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paragraph, the Examiner believes that the applicant has referred to a passage in Dolganow that is misleading. The applicant states Dolganow teaches [0036] "Source routing protocols allow each node within the network to determine a path to a particular destination based on that node's knowledge of the network topology". However, paragraph [0037] states, "The path is selected by the source node that determines a path". The IEE 100 Dictionary defines source routing as "The capability for a source to specify the path that a frame will use to traverse the bridged network".

The applicant states, Dolganow does not suggest a wireless communication terminal "selecting a route via the network (pg. 4 last paragraph). As stated above, Dolganow teaches 'source routing' wherein the source determines the path. The Examiner maintains in fig. 1 of Dolganow, the Originating Switch 30 can be viewed as the source/terminal since the Originating Parties 10 must transmit their packets to the Originating Switch.

The applicant alleges that in claim 1, the limitation "information dependent upon wireless communications between the terminal and at least one of the nodes" defines information that is not forwarded from other nodes regarding the link, but known information available in the terminal relating to its wireless links with at least one other node in the network" (pg. 5 last

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paragraph). The Examiner maintains that the applicant is stating limitations that are not found in the claims and the 'link cost' of McAllister reads on the 'information dependent' of the claim. Regarding applicant's statement that McAllister does not disclose a "link cost" requirement is equivalent to "information dependent upon wireless communications between the terminal and at least one of the nodes", as stated above the reason to combine the references was all the references teach 'source routing'. Regarding wireless communications, this limitation has already been met with respect to the primary reference Alriksson.

Regarding applicant's comment on the reason to combine the references (applicant: pg. 7 1st paragraph), as stated above, all references teach 'source routing' wherein the source determines the route the packet will be transmitted through the network.

The applicant contends Dolganow discloses networks in which the switching nodes, not the wireless terminals, receive information and select an appropriate route (pg. 7 last paragraph). As stated above, Dolganow clearly teaches the source node determines the route [0037]. Also, as stated above, the Examiner corresponds the applicant's terminal to the Originating Switch of Dolganow since in the specific example of Dolganow the

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terminals (fig. 1 elements 10) do not route. In contrast, the terminals transmit packets to the Originating Switch and the Originating Switch is the first node in the system that routes.

The applicant states, "it is unclear how 'selecting a route in dependence upon information dependent upon communications between the terminal and at least one of the nodes' would result in the chosen route being affordable to the user as alleged by the Examiner" (applicant: pg. 8 1st paragraph). The Examiner maintains that it would be advantageous for the source node to know the 'link costs' of each link in the network before the source node determined the route.

The applicant contends, "the Examiner's selection of Alriksson is based on hindsight selection solely for its disclosure of a wireless terminal" (applicant: pg. 8 2nd paragraph). As stated above, all references teach source routing and the Examiner maintains that modifications based on the secondary references would be obvious given all reference's teach source routing.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RONALD ABELSON whose telephone number is (571)272-3165. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ronald Abelson
Examiner
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